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A Term Paper

The Practicability of Standardizing Technical and Catalog Organizations at Supply Demand Control Points

By

J. T. Robison

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THE FEASIBILITY OF STANDARDIZED PROCEDURES AND FACILITIES FOR SERVICING AT SUPPLY AND DEPOT LEVELS

A Term Paper

Presented to

the Faculty of the Management School

U. S. Naval Postgraduate School

In Partial Fulfillment

of the Requirements for Completion

of the Management Course

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by

LCDR John F. Robison, SC, USN

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Set all things in their own peculiar place,
And know that order is the greatest grace.

DRYDEN

PREFACE

The selection of the topic "The Practicability of Standardizing Technical and Catalog Organizations at Supply Demand Control Points" as a management paper is based on personal experience in reorganization in this particular area at a Navy Supply Demand Control Point, the existence of diverse technical and catalog organizations at the several Supply Demand Control Points in the face of a standard organization for these functions, and an interest in the factors supporting these existing organizations from the viewpoint of the organizational principles involved.

The author is aware that because of the widely varying organizations for technical and cataloging functions at all Supply Demand Control Points, the Bureau of Supplies and Accounts is giving consideration to revising the standard organization for these functions as well as other related functions. The purpose of this paper is to make an objective study of existing technical and catalog organizations and on the basis of their objectives, practices, and operating procedures evaluate the feasibility of a standard or "ideal" organization structure for these functions. Although remote and comparatively infinitesimal in scope, it is felt that this study may serve as a worthwhile contribution toward that ultimate goal -- the strengthening of weapons for the defense of our nation.

To some extent this study will reflect personal ideas and impressions. However, insofar as possible, the findings and recommendations of this study will be based upon the guiding principles set forth by

publications on organization and management and the interpretation of information provided by specific Supply Demand Control points. The author is indebted to the Electronics Supply Office, General Stores Supply Office, Ordnance Supply Office, Submarine Supply Office, and Training Devices Supply Office for their contribution of information without which this study could not be made.

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CHAPTER I

INTRODUCTION

Purpose of Study

The purpose of this study is to determine the suitability of a standard organization for technical and catalog functions at Supply Demand Control Points. For the uninitiated a Supply Demand Control Point, referred to hereinafter as a SDCP, is an inventory control activity established to administer the Navy supply system for categories of material as assigned by the bureau having overall cognizance of the material involved. Each SDCP is under joint control of the Bureau of Supplies and Accounts and the technical bureau having primary responsibility for the material administered by that SDCP.

During the past few years there has been an organizational trend to deviate from the standard SDCP organization governing the technical and catalog functions by the Bureau of Supplies and Accounts. Today, not a single SDCP conforms with this organization. On the basis of these deviations, which have been justified and approved, it is apparent that the existing standard organization for these functions is no longer applicable.

In view of inadequate supply and trends for centralization in the field of logistics support it is advisable periodically that an organization structure must be considered solely for the purpose of the SDCP organization. On the other hand, in view of the continuity of many technical and service functions which are [illegible]

organization applicable to all DCSs may be recommended. In any event, the magnitude of these operations, in terms of manpower alone, provides sufficient stimulus for the study of present functions and organization structure in the light of generally accepted principles of organization. The magnitude of this effort can be appreciated by the fact that of the entire civilian personnel strength of [illegible], which totals approximately 7,500, at least one-third is assigned to technical and catalog operations. The payroll for this segment is conservatively estimated to be $12,000,000 per year.

No specific problem can be pointed out as a result of this pattern of organization. Essentially, the problem is whether this trend is sound from an organization point of view. Or more important - is this deviation to the best interests of the Navy?

The urge to standardize is universal among organizations - perhaps to a fault. Nevertheless, there is value to standard organization. Within the principles of organization developed by the Army Service Forces during World War II there are three reasons for adhering to a standard pattern of organization:

1. To simplify organizational relationships and procedures by conforming organization structure to a logical, homogeneous pattern, based on one fundamental plan of organization.
2. To standardize organizational structure at all levels to as great an extent as possible, on the basis of the most effective organizational pattern.
3. To provide a simple basis for general understanding and recognition of the exact location of responsibilities at all levels of the organization. 1

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1 Army Management of the National Economy, Principles of Organization, Volume IV, Industrial College of the Armed Forces, Washington, D. C. p. 12.

General Approach

The approach to this study is patterned after the outline established by Hillman and Lee for the general approach and steps to be followed by the "Administrative Analyst in Solving a Problem". The sixth step, that of installation and follow-up of recommendations, has to be omitted. This approach is:

1. Preliminary planning and background development, including determination of proper scope and level of survey.
2. Collection of factual information and data.
3. Analysis and interpretation of data.
4. Development of solutions and recommendations.
5. Preparation of final report.[2]

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[2] John N. Hillman and C. Lynn Lee, A Manual for Administrative Analysis (Chicago, Donnelley & Sons Company, 1956), p. 1.

CHAPTER II

PRELIMINARY PLANNING, BACKGROUND DEVELOPMENT,
AND SCOPE AND LEVEL OF STUDY

The preliminary planning and background development for an organization study requires a review of the basic principles of organization, the study of various types of organization, consideration of the principal bases for specialization in building up an organization, the review of regulations, and the establishment of a methodology necessary to conduct an organization analysis. The viewpoints of several recognized authorities on organization and management in regard to the organization structure appear below. For the purpose of conducting this analysis principles of management considered to be applicable to the situation at hand are presented.

Organization Structure

Lamperti and Thurston place a great deal of emphasis on the importance of the organization structure. They express the value of organizational structure as follows:

> Organization structure is one of the most, if not the most, important foundation of efficient and effective operations. Even if none of the other forms of management control, all are interrelated, and efficient operations are impaired with the loss of any one, but sound, scientific organization structure is essential to allow them all to operate with full power.[1]

---

[1] Frank A. Lamperti and John T. Thurston, [illegible] (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1950), p. 44.

Division of work

Organic activities into major operating departments is the most obvious and usually the first thing to consider in establishing an organization structure. In regard to effective departmentation, Newman has the following to say:

> Fundamentally, the administrator must seek a division of activities that provides the greatest advantage of specialization, facilitates control, aids in coordination, secures adequate attention to important activities, recognizes local conditions, develops people, and keeps expenses low.[2]

He also emphasizes the following in regard to organization structure:

> An additional point that should be given careful consideration in establishing an organization structure is the desirability of creating primary departments on a consistent basis. Thus, if most operating activities are divided among territorial divisions, there is a distinct advantage in having all operating activities classified territorially. Or, if the primary departments are functional in character, then the consistent use of a functional departmentation is likely to result in a simpler organization structure.[3]

Newman indicates that it is not always practical to follow one basis of departmentation, as there are certain situations where local conditions outweigh the advantages of the single, consistent basis of work division. In these instances he provides this cautionary note:

> Each time this is done the organization structure is made more complex. It is often harder to establish a "clean break" in responsibility and, consequently, control is more difficultly fixed; special provisions for coordination are required. The basic rule remains a consistent basis for departmentation of operating activities is desirable, though it is not always essential.[4]

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[2] William H. Newman, Administrative Action (New York: Prentice-Hall, Inc., 1951), p. 223.

[3] Ibid., p. 233.

[4] Ibid., p. 234.

In the approach to the structural aspect of organization, a great deal of emphasis has been placed on the division of activity effort. Here again it may be instructional to carry this too far. Alford and Beasley, in their treatise on development of an industrial organization, provide the following discussion:

> Although work division is the foundation of organization, it has major limitations beyond which it should not be carried. These limitations are, first, no advantage is gained by subdividing work so minutely that the time consumed in handling between workers exceeds that saved by specialization. Second, technology and custom make it impractical to subdivide certain kinds of work, although the influence of these factors is subject to change. Third, subdivision must not be carried to the point where the losses, due to the increased difficulties in coordinating the efforts of the subdivided, exceed the gains due to work division. Fourth, subdivision must not be carried to the point of organic division, i.e., where the time necessary to do the subdivided work required only a fraction of the full time of a man and related tasks are not available in adjacent locations.[5]

The Chain of Command

An understanding and utilization of the scalar or vertical is necessary for effective organization. Fayol describes chain of command as "the chain of superiors ranging from the ultimate authority to the lower ranks. The line of authority is the route followed -- via every link in the chain -- by all communications which start from or go to the ultimate authority."[6]

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[5] L. P. Alford and H. Russell Beasley, Principles of Industrial Management (New York: The Ronald Press Company, 1942), p. 111.

[6] Henri Fayol, General and Industrial Administration (New York: Pitman Publishing Corporation, 1949), p. 34.

Line and Staff

Every business organization is considered to employ the performance of military or staff functions. Line and staff functions are defined as follows:

> It is the function of the staff merely to counsel that of the line, and the line only, to command....The line represents the authority of many the staff, the authority of ideas....The (the staff's) function is to be informative and advisory with respect to both plans and their execution. This is implicit in the meaning of the word "staff", which is something to support or lean upon but without authority to decide or initiate.[7]

The Span of Control

No discussion of organization is complete without consideration of the principles of the span and level of management control. V.A. Graicunas offers the following in regard to this facet of management:

> Another principle of importance in determining responsibilities is that which establishes the limitations of the number of positions that can be coordinated by a single executive. This is usually referred to as the principle of span of control. The limitation depends upon the degree to which subordinate positions are dissimilar and interdependent, upon the complexity of duties at each of the positions to be coordinated, and upon the stability of the business and the frequency with which new types of problems arise....It is generally agreed that if the functions that are being coordinated are interdependent and dissimilar, then the span of control should not exceed five.
>
> The span of control and the number of supervisory levels of the organization are interrelated - the smaller the span, the greater the number of levels. If the number of levels is too great, communication is impeded, unity is jeopardized, and the organization tends to become slow moving and inflexible....A well designed organization of the centralized or independent type should not have more than six levels; likewise the span of interdependent positions reporting to any one executive should not exceed six; the span at the top should be less than five.[8]

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[7]Gregory Vlasgrad of the National Bureau, Volume II, Principles of Administration, Industrial College of the Armed Forces, p. 22.

[8]Ibid., p. 23.

[illegible]

[illegible] difficulties in [illegible] arise [illegible] in designing the organization procedure it is necessary to first design an "ideal" organization. Hale points to the importance of the ideal organization for reorganization purposes as follows:

> Perhaps the most important step in the reorganization process is the construction of the "ideal" organization (an organization that is not [illegible] to mean "perfect," but the most desirable as measured with the existing organizational). Construction of the ideal organization should embody the best thinking of those who have written on the subject and the best practices found in industry.[1]

Koontz and O'Donnell support the creation of an ideal organization in their presentation on the need for organization planning.

> Presumably there is a best way to organize, and it is a function of planning to discover and create the proper structure. The absence of comprehensive planning often accounts for organizations [illegible] in many lines. Many organizations are unable to keep their counsels of [illegible] changes since factors that direct one individual, while [illegible] may be due to necessary or planned changes in personalities, it is more often evidence of lack of planning or, perhaps, the failure of certain [illegible] organize planning could even be practiced.[2]

Navy Policy

The value of a standardized organization structure as well as an appreciation of organization flexibility, which enables each field to meet its own requirements, is recognized by the Bureau of Supplies and Accounts. In regard to these two aspects of organization the following statement is established by the Bureau of Supplies

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[illegible]

[illegible]

[illegible] [illegible] [illegible] [

Scope of the Study

The scope of this study is limited to those functions normally assigned to the Technical Division and the Director, Division of the Bureau of Supplies and Accounts. These functions are performed jointly with other organizations, a review of these areas is made to the extent feasible. The depth of study is limited to that which can be gleaned from documentary analysis. This has precluded the exploration of undetermined areas of operation or the collaboration with knowledgeable persons on new or revised concepts of EDP organization.

Notice to Reader

In order to analyze existing EDP organizations and functions, it is necessary to go into considerable detail. These details are included as a part of this paper in order to show the areas covered and to validate the conclusions and recommendations of the study.

The reader who has neither the time nor the interest to delve into the organization functions and data presented and analyzed in Chapters XII and IV can follow the continuity of this paper by reading these chapters and referring directly to Chapter V, Development of Conclusions and Recommendations.

CHAPTER III

FACTUAL INFORMATION AND DATA

Source of Information

In order to analyze the technical and catalog organization structure and functions of a SDCP, it is first necessary to collect and present the information that best represents these organizations. The basic information necessary for this paper is furnished by five Supply Demand Control Points - Electronics Supply Office, General Stores Supply Office, Ordnance Supply Office, Submarine Supply Office, and Training Devices Supply Office. These organizations represent almost one half of the inventory control points in the Navy Supply System. This information consists essentially of organization charts, personnel listings, and specific operating procedures and practices selected as being representative of SDCP organization and operation. Information utilized for this study was also obtained from the Bureau of Supplies and Accounts Manual and from writings of recognized authorities in the field of management.

Nature of Data

For purposes of this study the five SDCPs selected may be considered in the aggregate to represent a composite SDCP. On this basis it follows that the sum total of information and data presented is far more representative than if it were derived from a single source. The supply items carried and the degree of equipment support maintained by

these inventory control points differ widely, ranging in nature from the general to the highly complex. The basic areas reviewed for this study are:

- The SDSP mission, SDSP functional statement, and SDSP organization chart down to and including the branch level of each division.
- Organization chart of technical-catalog organizations down to and including unit level.
- Detailed functional statement of technical-catalog organizations for each organizational segment down through unit level.
- Staffing pattern of technical-catalog organizations including civilian personnel classifications and grade.
- Operating instructions or a description of the following functions:

  Provisioning of new equipments or components.

  Technical library practices including retention and storage of manufacturer's drawings, standards, etc., for both technical and catalog use.

  Maintenance of technical and catalog records.

  Publication policy, i.e., format and frequency of publication, nature of data published.

  Item identification for Federal Catalog Program.

  Work measurement data.

  Stock coordination.

It is obvious that a detailed comparison of all technical-catalog functions would be impracticable. However, it is believed that an understanding of organizational similarities and differences can be gained through comparison and analysis of the data appearing above.

The term technical-catalog functions will be used in a singular sense throughout this paper. Though separate functions by definition, they tend to blend together or overlap making a clear delineation of the two rather difficult.

Before analyzing the technical and catalog organization and functions of a SOCP, it is necessary to understand the initial pattern for organization - the standard organization and functions prescribed by the Bureau of Supplies and Accounts. This standard organization is presented in Figure (1-1). An organization chart for all SOCPs included in this study is presented as Figure (1-1, 1-2). A comparison of organization structures of technical and cataloging organizations is presented as Figure (2-1, 2-2, 2-3). A resume of other information and data which has been extracted from the basic data furnished by SOCPs included in the study is presented below.

Functional Missions

The functional mission assigned specifically to each SOCP by the Bureau of Supplies and Accounts is as follows:

Electronics Supply Office. Perform inventory control functions in accordance with the instructions and definitions as issued by higher authority.

General Stores Supply Office. Exercise Navy inventory management over material assigned to its control.

Ordnance Supply Office. Perform inventory management functions for items under their cognizance.

Subsistence Supply Office. Perform inventory management functions for items or categories of material under their cognizance.

Training Devices Supply Office. Insure that a proper balance is maintained between the supply of and demand for material under its inventory control.

The Bureau of Supplies and Accounts Manual, with reference to all SOCP, assigns their functional mission as follows: Supply Control Points do not maintain stocks of material but are offices, the function of which as stated in general terms is to assure a proper balance between

the supply of and the demand for individual items of material required for the operation and maintenance of the Naval Establishment.[1]

Functional Tasks

The general functional tasks applicable to all SCCP's which are necessary for the attainment of their functional mission are outlined by BuSandA.[2] Those tasks that are directly related to technical-catalog functions are:

- determine or assist in determining items to be stocked.
- carry out intensive technical research programs in order that all material under its inventory control cognizance and such other material as may be designated may be identified, cataloged, and stock numbered and that interchangeability between items may be established.
- participate in provisioning actions on technical [illegible] procurements, recommend procurement of repair parts and components, and schedule the delivery of these parts and components as designated by the technical bureau or office.
- recommend to BuSandA with information to other bureaus and offices, as appropriate, the transfer of cognizance of material which may be inappropriately stocked by the SCCP or other SCCP's or technical bureaus or offices.

These functional tasks are supported in terms of SCC[3] functional statements which follow.

---

[1]United States Navy, Bureau of Supplies and Accounts Manual, Volume I, Par. 11062-1, Change 72.

[2]Ibid.

Major Technical-Catalog Functions

A comparison of the major functions performed by each SCCP reveals that many are common to all technical-catalog divisions. Except where noted, these functions are:

- Identifies items to establish support or non-support of the material and determines preferred and standard items of stock.
- Determines interchangeable or substitute items when appropriate.
- Performs functions pertaining to material cognizance matters and departmental and interdepartmental standardization programs.
- In coordination with the stock control division, assists in the determination of range and quantity of repair parts to be included in provisioning documents. (Less GSCO)
- Establishes allowance lists and repair parts lists.
- When necessary, provides specifications for preservation, packaging, packing, and marking of material.
- Maintains a complete, current technical library on material as required by the mission of the SCCP.
- Conducts technical analysis necessary for the determination of requirements by the stock control division and procurement of material.
- Maintains the master item identification file.
- Develops description patterns and prepares item identifications.
- Obtains or assigns stock numbers for items under cognizance of the SCCP.
- Responsible for the layout, and printing of the Navy Stock List of the SCCP and allied publications issued by the SCCP. (GSCO compiles only)
- Maintains liaison with the Armed Forces Supply Support Center, Office of Navy Material, and BuSandA in implementing cataloging directives.

Several functions appear to be peculiar to certain SCCPs. Some of the major functions within this category are:

- Development and maintenance of population and usage data. (GSCO).

- Provides the data and guidance for the design, development and procurement of integrated test equipment by the contractor for equipments (C30).
- Coordinates and implements provisioning and allowance program (C30).
- Interprets and implements equipment support policy (C30).
- Maintains liaison with bureaus, SSCPs, other agencies as related to provisioning, allowances, and continuing equipment repair parts support policy for SSCP program supported equipments (C30).

Material Missions

In addition to functional missions, a material mission is assigned to each SSCP. Material missions and representative equipments are as follows:

Electronics Supply Office. Material assigned to the responsibility of the Electronics Supply Office consists of: (1) electronic equipments, (2) electronic, electrical or mechanical repair parts (except common type items identified by other cognizance symbols) required for the support of assigned electronic equipments, (3) common electronic parts used on all equipments, and (4) associated test equipment. Representative of the equipments supported are: radio, radar, sonar, teletype, and telemeter equipments used afloat or ashore; fire control radar equipments.

Ordnance Supply Office. Material assigned to the Ordnance Supply Office is designated as Cognizance Symbol "3" material and consists of: (1) ordnance equipments, and (2) the ordnance repair parts required for support of these equipments. Representative of the items supported are: gun mounts and gun turrets for use on ships and ashore, turrets, projectors, rockets, and launching devices for rockets and guns; gun mounts, and accessories designated as aviation ordnance principally; ordnance

ordnance; special weapons; miscellaneous.

Naval Stores Supply Office. Material assigned to the Naval Stores Supply Office are based on specific criteria and are assigned by commodity. In general this material is of a common nature and is characterized by being identified under federal or military specifications or by commercial specifications and standards, has sufficient descriptive nomenclature for procurement, etc. Material assigned to this inventory control point is represented by fiber rope, cordage, twine; office supplies; lumber; paint; paper; iron and steel; and handtools.

Submarine Supply Office. Material assigned to the supply management of the Submarine Supply Office and designated equipment symbol "SP" material consists of: (1) submarine equipments, (2) submarine repair parts including peculiar related accessories and consumables for submarine use, (3) nuclear equipments installed on submarines and surface vessels, and (4) nuclear repair parts required to support nuclear equipments. Among those equipments supported are: propulsion, power generation and distribution, auxiliary motors and controllers, hydraulic systems, torpedo and mine handling equipment, and nuclear refueling equipment.

Training Devices Supply Office. Material assigned to the Training Devices Supply Office is identified as equipment symbol "TD," and consists of repair or replacement parts, except repair parts defined under other equipment symbols, required for the operation and maintenance of training devices. Representative of equipments supported are: training devices used in aviation, surface and sub-surface training; communications training; weapons training.

Staffing:

An analysis of civil service classifications appearing on technical personnel listings of the various SDCPs indicates a predominance of Equipment Specialists and Supply Cataloger classifications. These classifications are augmented by such supporting classifications as General Engineer, Allowance Specialist, Preservation and Packaging Specialist, Illustrator, Supply Catalog Clerk, Clerk, and Clerk-Typist.

The predominant technical classifications are of the occupational speciality characterizing the SDCP concerned, i.e., Equipment Specialist (Electronics) at the Electronics Supply Office, Equipment Specialist (Ordnance) at the Ordnance Supply Office, etc.

In general, the civil service grade at the working level within the technical-catalog organizations is higher than the working level at other primary operating divisions. At each "technical" SDCP, i.e., the equipment support activities such as OSO, SSO, ESO, and YSO, the numeric strength of the technical-catalog division(s) closely approximates 10% of the total personnel strength. The ratio of catalog and technical personnel to complement at GSSO, the "non-technical" SDCP, is substantially lower.

The ratio of supervisory personnel to non-supervisory personnel and the grade structure at the various organizational levels are consistent throughout all SDCPs. Classifications of senior supervisory personnel at the division and branch level are usually the same as the predominant classification of the division or branch. These classifications are: Supervisory Equipment Specialist; Supply Cataloger Supervisory; Supervisory Engineer; Supervisor, General Supply Officer; Supervisory Allowance Specialist; Supervisory Preservation and Packaging Specialist; Supervisory, Publications Editor; and Editorial Clerk, Supervisory.

The preliminary classifications assigned to technical-supply functions is as follows:

Function	Classification
Item Application Analysis	Equipment Specialist
Material Identification	Equipment Specialist, Supply Cataloger
Preservation and Packing	Preservation Specialist
Standardization	Engineer, Equipment Specialist
Allowance and Load List	Allowance Specialist, Equipment Specialist
Item Identification	Supply Cataloger
Compilation and Distribution	Supply Cataloger, Publications Editor

Functions above represent the functional group established by the DuBardA Work Measurement guide. These functions are not as well defined as might be indicated since they tend to overlap and are duplicative in several operations. However, they are considered to be adequate for purposes of this presentation.

Military personnel exercise line supervision over work division and serve to a limited extent in a line and advisory capacity at other levels of supervision. The number of military personnel does not exceed 3% of any organization. Inasmuch as supervisory positions are being considered from a functional rather than a military viewpoint, a further study of military personnel is considered unnecessary.

Work Measurement

A formal Work Measurement Program is maintained at each ZOI in accordance with DuBardi Publication 205. In terms of unit description, unit count, productive hours, back log, etc., the program is uniform throughout all ZOIs. A standard format is used in reporting data.

Provisioning

Provisioning is defined as a technical-supply determination made at the time of purchase of a major equipment of the range and quantity of repair parts required to support that equipment for a given period of time.[3] This is a major function at all SDCPs except the General Stores Supply Office. Basic provisioning functions and the assignment of responsibilities are similar throughout the technical SDCPs with one exception. In general the coordination of the provisioning process is assigned to the System Planning Division with the detailed technical-supply determination being assigned jointly to the Technical Division and the Stock Control Division. In the case of the Electronics Supply Office, it appears that all provisioning actions, including the planning and coordinative functions, are assigned to a single division - the Equipment Support Division - organized specifically for the provisioning function.

Stock Coordination

Stock coordination is defined as a technical-administrative process by which an item, group or category of material, is identified and assigned to one of the SDCPs.[4] Formal agreements, generally standard in content and format, exist between all SDCPs as to how and under what circumstances the cognizance of material is to be assigned or transferred from one SDCP to another. This function is performed by the Material Determination Branch, Technical Division, of each SDCP.

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[3] United States Navy, Supply Support of the Navy, Navpers Publication 2HO, p. 30.

[4] Ibid., p. 27.

Item Identification

One of the important aspects of a supply system is the identification of the stock items to be carried by the inventory manager. Under the Federal Catalog System this process of identifying stock items is known as item identification. Item identification is performed by all SMCPs. This function, as well as related catalog functions required by the Federal Catalog System, is performed by one organizational branch within the Technical Division. In each instance, the detailed procedure for item identification is built into the framework of an organization structure that differs among the SMCPs studied. Item identification is performed by the following organizational units:

IDO - Item Identification Branch, Equipment Support Division.

CSCO - Compilation Branch, Catalog Division (proposed).

MSO - Material Identification Section, Technical Branch, Special Weapons Division and Material Identification Branch, Technical Division.

IdO - Identification Branch, Technical Division.

TDCO - Catalog Branch, Technical Division.

Technical Library

A technical library, usually identified as the Technical Data Branch or assigned as a primary part of the Technical Data Branch, is maintained by all SMCPs. With the exception of one SMCP where this unit is assigned to the Administrative Services Division, the technical library is a part of the Technical Division. The primary function of the technical library is control over the receipt, maintenance, and issue of technical data. Technical data consist primarily of blueprints, specifica-

manufacturer's catalogs and parts books, government catalogs and publications, specifications, and related technical information. Overall functions of each technical library are similar though the actual operations vary in detail. Organization, name, and location of the technical library at each SDSP is as follows:

ESO - Technical Data Branch, Administrative Services Division

OSSO - Technical Data Branch, Technical Division

OSO - Technical Data Branch, Technical Division

SSO - Material Determination Branch, Technical Division

TASO - Research and Technical Data Branch, Technical Division

Technical and Catalog Records

Technical data files consisting of both manual records and EAM card records are maintained within the division(s) performing technical-catalog functions. Technical records are known variously as the Master Technical Item File, Master Item Identification File, Master Technical Record, Master Description Card, and Technical Data Card at the SDSPs studied. These records are maintained manually and are designed to serve as a master record for all technical information required by the SDSP. The master records vary in format and in detail but in general portray such information as stock number, part number, manufacturer, description of item, interchangeability, equipment application, weight, cube, etc. The majority of items appearing on master records are common to all SDSPs. Manual and EAM catalog records are also maintained by each SDSP. These records are part of the Federal Catalog System but are standard in content and type of information. Supplemental files covering related processing,

financial, and progress data are also maintained in connection with these files but are normally controlled outside of the technical-catalog division. All MAM files are interdependent, their range and depth depending upon the complexity of the SDCP support system and the number of refinements desired. In most instances, custody and maintenance of master technical and catalog files and records is assigned to one organizational unit of the technical-catalog division.

Publications

Each SDCP prepares a Navy Stock List for the material under their cognisance. This involves the compilation, lay-out, illustration, and editing of the Navy Stock List for printing. In addition, certain related publications are prepared by each SDCP. Each Navy Stock List is patterned to meet the particular needs of each SDCP. However, a certain degree of standardization is maintained as to the title, format, and the frequency of issue of basic publications and publication changes. In general, a single unit, usually at a branch level, is responsible for the preparation of the Navy Stock List and related publications. Distribution control of publications is also maintained at each SDCP.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

This phase of the general approach encompasses the analysis and interpretation of organizational data and problems presented in the previous chapter. In general, it involves the appraisal of factors which have influenced the establishment of organizations and functions along with present lines and the adequacy of these organizations to perform their missions.

It may be noted from Figure (1-1) that the Technical and Catalog Divisions are established as separate entities. The Technical Division occupies separate status on the basis of its role as a specialized agency for all technical matters. Historically, the Catalog Division was established primarily to meet the requirements of Public Law 630, the legal authority for the National Cataloging Program. The magnitude and urgency of this program was such that it was necessary to create a separate cataloging organization. In such time the personnel strength of both the Catalog Division and the Technical Division far surpassed that of other divisions, a factor that has supported their existence as separate divisions.

Analysis of individual work organization charts for each, with the exception of the General Service Supply Office, that the Catalog Division has been eliminated. In the case of the General Stores Supply Office, a proposed Catalog Division was established pending the transfer of this function from the Navy Material Catalog Center. The absence of the individual Support Sections at the Directorate level is also a

division in the [illegible]. In the Automotive Command the "Miniature ROSI" division, the Special Weapon Division and the Railway Supply Division, are subdivisions within the Ordnance Supply Office and the Subsistence Supply Office, respectively. In addition to inventory control functions, these divisions perform certain technical functions for specific categories of material. Establishment of these special divisions is attributed to the significance of their particular programs to national defense. Here, the conventional functional basis of work division has given way to organization on the basis of product.

Standard and specific SSSP technical and catalog organization structures down to the branch level can be noted in Figures (2-1, 2-2, 2-3). No single structure conforms with the standard organization structure. Within the Electronics Supply Office, Item Identification and Publications branches are assigned to a non-standard Equipment Support Division and the Administrative Services Division. In addition, allowance list preparation, a technical division function, and provisioning specification, a system planning function, are assigned to the Equipment Support Division. Within all other SSSPs, less CSSO, catalog data and functions have been integrated into that of the Technical Division.

The disestablishment of the Catalog Division as a separate division in the technical SSSPs is attributable to several reasons. Among is the evolution of the identification and correction phase of the National Catalog Program. The second factor is the similarity of cataloging classification functions to those performed by the technical specialists. Under the press of budgetary limitations, this area of duplicate utilization

effort was integrated for the sake of brevity. Still another reason is the prevailing need to improve the efficiency and economy of internal operations by reducing the "length of the production line."

The most radical departure from the standard organization exists at the Electronics Supply Office. Here the major functions relative to equipment support such as provisioning coordination, allowance list preparation, and item identification have been integrated for the purpose of improving this program.

In spite of diversities in structure, each technical-catalog organization appears to be sound from the viewpoint of work division, span of control, scalar depth, and line-staff relationship. Nevertheless, the emergence of two basic patterns - the consolidation of identification functions as evidenced by three of the SDCPs reviewed, and the establishment of an equipment-support complex emphasizing the provisioning program at the Electronics Supply Office, raises the question of a program vs. functional basis for technical-catalog organization.

Functional Missions and Tasks

The broad functional mission assigned to SDOPs by the Manual of Supplies and Accounts Manual and the functional mission assigned specifically to each SDOP are considered to be identical in intent. Further, inasmuch as technical-catalog functional tasks are assigned in support of the SDOP functional missions, it is logical to find that these tasks are also identical. From the above it is concluded that all SDOPs have been legally assigned the same type of mission and have thus been created for the same function or purpose.

Comparison of Major Technical-Catalog Functions

Functional statements prepared by each SDOP are almost identical. The similarity of these functions is attributable to the adherence by each SDOP to the functional statements prescribed in the Publications Manual for technical and catalog functions and to the adequacy of the terminology in describing the functions performed. In the isolated instances where functional statements differ, they appear to fit specific interests of a particular SDOP. For example, several new functional statements pertaining to provisioning and equipment support policies by BuS indicate a trend of emphasis on equipment support programs, a matter normally under the scope of the System Planning Division. In all other respects a comparison of major technical-catalog functions indicate that each SDOP performs essentially the same function.

Material Missions

Inasmuch as each ISSP is established for the express purpose of rendering supply support for specific commodities of equipment, or for the management of specific categories of material as in the case of NSCL, it is obvious that the material mission of each is different. It is significant that the equipments supported by these SSCPs reach the ultimate in technical complexity, e.g., guided missile systems, special ordnance weapons, and nuclear propulsion plants, and their items of supply range from the most commonplace to the most sophisticated. With the exception of the General Stores Supply Office, where material assignments are made on a commodity basis, all SSCPs are primarily concerned with the support of technical equipment, major components, and end items. It is this area, with its extremes in complexity and peculiarity, that creates the greatest demand on organization. It is apparent that the technical liaison between a SSCP and the electronics industry would differ in many respects from the technical liaison maintained between a SSCP and industrial agencies engaged in the production of soap powder or nuclear equipment.

Staffing

Classifications of personnel assigned to comparable technical-catalog organizations, the grades at various levels within these units, and the ratio of supervisory to non-supervisory personnel are fundamentally the same. Civilian personnel of the Navy are classified on the basis of occupational specializations and the relative difficulty and responsibility of the duties performed. The classification process is based on formal classification standards and is usually determined by Navy

position classifiers. Accordingly, classification throughout each SDOP is considered to be consistent and fair. Inasmuch as the steps and form of individual positions are related to the structure and functioning of the organization, it is logical to assume that the functions within these similar organization counterparts are closely related.

Work Measurement

A uniform work measurement system is in effect for all technical-catalog operations. The uniformity of this system is attributable to compliance with DuSandA Publication 285, the directive under which a standard work measurement program is maintained. Although a single work measurement program is in effect, it is highly improbable that the weight and value of each work count is consistent among all SDOPs. This inconsistency is attributable to the myriad of clerical-technical actions that are undertaken and the various interpretations of effort that are applied to established work units. The outstanding impression gained from the review of this area is that a uniform work measurement program covering technical and catalog functions is maintained and that these functions, though performed at all SDOPs, are sufficiently related to be included within the scope of a single work measurement system.

Provisioning

Provisioning objectives are the same at all SDOPs performing provisioning. This is understandable since the basic policy and procedures governing provisioning of end items of material is established by common directive by the Secretary of the Navy. To a large extent, the basic provisioning process, i.e., the internal function of cataloging, requisitioning,

technical review, stock control review, etc., are also similar. However, the detailed practices and procedures for provisioning are established at the discretion of each SCSP and vary greatly between SCSPs.

It is this area of supply management -- the functional interface and supply elements -- that offers the greatest challenge to the organizer.

At the Electronics Supply Office certain traditional Technical and Catalog Division functions have been integrated with the provisioning planning and coordinating functions of the System Planning Division for the express purpose of meeting provisioning requirements.

It is concluded that the provisioning process -- a direct reflection of the SCSP material mission -- is a focal point of operational complexity and should be organized to best serve the enterprise objectives.

Stock Coordination

The stock coordination function is primarily of a technical-clerical nature and is performed by the Technical Division of each SCSP. This function involves the review, selection, and cognizance assignment of supply items on the basis of established guidelines. Although the detailed procedures necessary for this operation differ at each SCSP, the same principal procedural steps and source material are utilized by all SCSPs.

Item Identification

Of all the various supply functions at an Inventory Control Point, whatever Army, Navy or Air Force, the item identification function is perhaps the most uniform. In all instances, the process of item identification per se is performed in accordance with cited documentation established by the Department of Defense. This is not to infer that only

ation is theoretical, but in reflecting the fact that the same guidelines, terminology, tools, and processing procedures are employed throughout each SDCP. In this area uniform procedures are necessarily maintained without regard to organization structure. In some SDCPs item identification is assigned to a specific organization as a single function. In others, this function is performed in addition to other technical actions by a single organization. It is concluded that in spite of past practices, this function can be performed in conjunction with other similar technical functions by the same organizational units.

Technical Library

Although the actual operations, practices, records, etc., vary in detail, the broad functions of the technical libraries at all SDCPs are analogous.

Technical and Catalog Records

Technical and catalog records serve as a central repository for all information relative to technical and catalog matters and are an indispensable and integral element of these operations. Inasmuch as the data requirements appearing on the manually maintained technical records are essentially the same, it can be concluded that the technical functions, i.e., the decisions made on the basis of interpreting this information, are closely related. The FSN cards and manual descriptive items for catalog data, which are a part of the federal supply catalog, are uniform in scope and detail. Therefore, it might be further concluded that catalog functions are closely allied in all SDCPs. From the above, it is concluded that both technical and catalog records are utilized in all technical groupings in each SDCP.

Navy Stock Lists and related publications serve as the media for publishing the supply items managed by the SICPs. Although the basic publications are published to meet the needs of each SICP, they remain standard in format. A uniform schedule is maintained for issue of all publications. Uniformity of Navy Stock Lists as to format and issuance at all SICPs is attributable to the efforts made by DSCSM to standardize these publications. The same layout, compilation and illustration technique is employed at all SICPs. In conclusion, the publications function is considered to be substantially the same at all SICPs.

General Conclusions

From the analysis above it is concluded that:

1. The technical-catalog organization of each SICP is basically sound.

2. The decimal-catalog organization structure of each SICP is different.

3. Technical-catalog functions of all SICPs are substantially the same.

4. Provisioning functions of all SICPs differ in scope and complexity.

5. Technical-catalog functions in all other areas are susceptible to uniform departmentation.

CHAPTER V

DEVELOPMENT OF SOLUTIONS AND RECOMMENDATIONS

The concluding analysis in the previous chapter indicates that SDSPs are performing identical functions and infers that a standard organization is appropriate for those functions. The study also reveals that standard guidelines and operating procedures exist for virtually every major function. From this it would appear that the existence of standard goals and objectives would preclude the need for a standard organization. It is emphasized that present organizations are sound. However, it is contended that a standard organization and the attendant improvement in work measurement and refinement in procedures and records will improve the overall effectiveness of SDSP operations. In order to support the position that a standard organization is practicable, it behooves the proponent to construct and substantiate, at least hypothetically, an "ideal" organization structure.

Developing the Organization Structure

Developing an organization structure from this discussion requires an architectural approach of balancing spans and functions. Allowances for the human element are beyond the designer's reach. The construction of an "ideal" organization, guided by factors presented and developed within this report and a general feel for an accommodating structure, is attempted below.

Division. [illegible] the division must be governed by the availability of the [illegible] objectives. Incorrect organizations [illegible] by the terms of function [illegible], to [illegible] coordination is sometimes necessary.

Work Analysis. In the search for an ideal organization, it is necessary to reduce the work of the enterprise to the simplest determinator. Basically, the technical-clerical process consists of the collection of material and the clerical-technical maintenance of this material after induction into the system. The work effort can be logically categorized as (1) productive, and (2) corrective. Staff and service functions are non-operational in the sense of technical criterion and are therefore excluded from this concept. The latter are considered as auxiliary or facilitating functions. Though out of balance in regard to overall operation these two concepts cover the functional major levels. For example, the technical function of providing and disseminating [illegible] preparation is of a productive nature. In contrast, the functions of item identification, decisions as to interchangeability, development of purchase specifications, and standardization of items are of a corrective nature, i.e., decisions are based on corrections. In other words, a transformation of data, either directly or interpretatively, takes place. In general, the productive process is not susceptible to subdivision and depends upon the factors of level, whereas the corrective process lends itself to repetitive action. The concept of work effort offers a somewhat different perspective for organizational development.

Technical Information. The object of the [illegible] program has been to provide current different publications [illegible] the identification and application of material [illegible].

and [illegible] provides some of the [illegible] influence on [illegible] activities. The [illegible] and military purposes to [illegible] some [illegible] material has a [illegible] influence on creating a [illegible] organizational structure.

Subdivision. On the basis of (1) work process, and (2) basic and service function, representative functions of the [illegible]-division divisions can be divided as follows:

Work Process	Basic Function
Predictive	Determination of range and quantity of repair parts by provisioning.
	Establishing maintenance kits, allowance lists, repair parts lists.
Comparative	Determination of interchangeable items.
	Item identification.
	Performing functional portability to material organizations.
	All other functions relating to technical analysis.
Support or Service	Compilation and distribution of publications.
	Stock numbering, recording and maintenance of technical and catalog records.
	Administration of technical library.
	Coordinating provisioning, and allowance list programs.

Conclusion. Construction of a logical organization was shown [illegible] possible. A proposed organization is presented in figure (2).

[illegible]

[illegible] are combined into a single unit. Representation on this basis serves to eliminate the confusion created by many overlapping functions, such as determining equivalency and interchangeability, presently assigned to Catalog and Technical Divisions. As pointed out above, the use of Federal catalog data on a basic language will combine all the overlapping functions.

The functions of publishing, technical library, and processing all subsections of technical data catalog data, are [illegible] placed under a single service unit. This is a logical [illegible] these are supporting functions, are of an administrative nature, and do not require the technological ability of [illegible].

No representation is made to disestablish [illegible] which now in the Defense Supply Division of the Defense [illegible] units should be appraised as required.

In view of the diverse and specialized functions involved in this organization, a study group is located at division level. [illegible] would be responsible for all [illegible] work and [illegible] planning, or coordinating responsibilities within the scope of [illegible] specialized groups or the Management Planning Office.

[illegible] [illegible] [illegible] [

Major Conclusions

The major conclusions of this study are as follows.

1) Supply Demand Control Points are performing identical technical and catalog functions with different organization structures.
2) These organizations are subject to improvement.
3) The present standard organization for technical and catalog functions at Supply Demand Control Points is no longer appropriate.
4) A standard organization is feasible for all technical and catalog functions at Supply Demand Control Points.

Major Recommendations

It is recommended that:

1) The present standard organization for technical and catalog divisions of Supply Demand Control Points be discontinued.
2) The Bureau of Supplies and Accounts establish a revised standard organization along the lines of the organization developed herein for technical and catalog functions at Supply Demand Control Points.

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